



## HERBAL FOLK REMEDIES FOR CURING VARIOUS AILMENTS IN LUG VALLEY OF DISTRICT KULLU, HIMACHAL PRADESH (N.W. HIMALAYA)

Suresh Kumar<sup>\*1</sup>, Gian Chand<sup>1</sup> and Parveen Sankhyan<sup>2</sup>

<sup>1</sup>Department of Botany, Abhilashi Institute of Life Sciences, Ner Chowk, Mandi, H.P. (India)

<sup>2</sup>Department of Botany, Govt. P.G. College, Una, H.P. (India)

[shahriask@gmail.com](mailto:shahriask@gmail.com)

### Abstract:

*Traditional systems of medicine have formed the basis of health care throughout the world since the earliest days of humanity and still continue to be widely practiced globally. The Himalayas have a great wealth of traditional medicinal knowledge. Himachal Pradesh, one of the pioneer Himalayan States is a rich repository of medicinal flora. The climatic conditions prevailing in the region maintains an ideal habitat for the natural growth of variety of medicinal plants and herbs. These are the sources which provide raw materials for pharmaceutical, phytochemical and cosmetic industries. Therefore, the present study aims at exploring and documenting the plants used for curing different diseases by different communities of Lug Valley, Distt. Kullu, Himachal Pradesh.*

**Keywords:** Traditional Knowledge, Phytomedicine, Lug Valley, Medicinal Plants, Healthcare.

### Introduction

Right from its beginning, the documentation of traditional knowledge especially on the medicinal uses of plants, has provided many important drugs of modern day. Even today this area holds much more hidden treasure as a large proportion of human population in developing countries is dependent on plant resources for healthcare (Kaur et al., 2011). Historically, plants have provided a source of inspiration for novel drug compounds, as plant derived medicines have made large contributions to human health and well being. Their role is two fold in the development of new drugs: (1) they may become the base for the development of a medicine, a natural blue print for the development of new drugs or; (2) a phytomedicine to be used for the treatment of diseases (Iwu, 1993). It is estimated that approximately one quarter of prescribed drugs contain plant extracts or active ingredients obtained from or modelled on plant substances. Aspirin, atropine, artimesinin, colchicine, digoxin, ephedrine, morphine, physostigmine, pilocarpine, quinine, quinidine, reserpine, taxol, tubocurarine, vincristine and vinblastine are a few important examples of what medicinal plants have given us in the past. Most of these plant-derived drugs were originally discovered through the study of traditional cures and folk knowledge of indigenous people and some of these could not be substituted despite the enormous advancement in synthetic chemistry (Kumar et al., 2011). The herbal products today symbolize safety in contrast to the synthetics that are regarded as unsafe to human and environment. Although herbs had been prized for their medicinal, flavouring and aromatic qualities for centuries, the synthetic products of the modern age surpassed their importance, for a while. However, the blind dependence on synthetics is over and people are returning to the naturals with hope of safety and security (Joy et al., 2001). Beneficial and medicinal properties of plants have been used in some forms or the other by the primitive people and cures were effective without any harmful consequences. Formulations of these medicinal plants were based totally on the local flora present in their vicinity. But due to many intervening factors, only few of the records survive today (Parkash & Aggarwal, 2010). Due to recent developmental activities and market inclination, a decline in traditional knowledge has been observed. Therefore, greater efforts are required to document traditional knowledge of the local people so as to prepare a comprehensive account of it, which will open new vistas in plant research (Sharma & Lal, 2005).

India is one of the twelve mega-biodiversity countries of the World having rich vegetation with a wide variety of plants with medicinal value. Indian subcontinent represents one of the greatest emporia of traditional medicines in the world. Even today, indigenous people living in high mountains and remote rural areas depend upon traditional medicines for treating different ailments (Singh et al., 2012). India is known for rich repository of biological wealth having more than 17,500 wild plant species, and of these 4,000 species have medicinal values (Sharma et al., 1997). Use of plants as medicine is not of recent origin, as above 1,200 herbal plants are mentioned in ancient Indian texts (Jain & Mudgal, 1999). Even today, 80% of the world's population relies on traditional plant medicines as also in India by various rural and tribal communities through Indian Systems of Medicines and other undocumented traditional practices (Khan et al., 2004; Gadgil, 1996; Mashelkar, 2002).

Analysis of the flora of Himachal Pradesh shows that there are approximately 3,500 species of higher plants. Out of these about 1,500 species are reported to be of medicinal value (Chauhan, 1999). Several studies have been carried out on the use of the medicinal plants in the north-western Himalayan region in general and the state of Himachal Pradesh in particular. From the ethnomedicinal point of view, some of these earlier works include: Uniyal and Chauhan, 1973; Kapur, 1993; Gaur and Singh, 1995; Lal et al., 1996; Chauhan, 1999; Badola and Pal, 2002; Sharma & Lal, 2005; Samant et al., 2007; Parkash and Aggarwal, 2010; Balkrishna et al., 2012. Moreover, some of the ethnomedicinal explorations in Kullu District of Himachal Pradesh are those of Singh, 1999; Singh and Rawat, 2000; Singh, 2004; Sharma et al., 2005; Negi and Subramani, 2006; Boktapa and Sharma, 2010; Rana and Samant, 2011. In spite of an exhaustive work carried out in the region, no attempt has been made so far for inventorisation of the medicinal plants of Lug Valley in the N. W. Himalaya. Therefore, present study has been conducted to document the medicinal plant wealth of Lug Valley, Distt. Kullu, Himachal Pradesh (N.W. Himalaya).

### Study Area

Himachal Pradesh, a hilly state with altitude ranging from 350m to 7,000 m above mean sea level (amsl), covers an area of 55,673 sq km. Because of the wide range of altitudes, topography and climatic conditions, the state harbours rich plant diversity. Kullu district in Himachal Pradesh stretches from the village of Rampur in the south to the Rohtang Pass in the North. The rivulets of Kullu form eight valleys which include Ani, Banjar, Garsa, Sainj, Kullu, Manikaran, Korpan & Lug. Lug Valley is located to the north-west of Kullu (Fig. 1). The entire valley is encased by lofty mountains and plenteous deodar forests.



Fig. 1: Map of Himachal Pradesh Showing Study Area

## Methodology

Intensive floristic surveys were conducted for collecting medicinal plants of Lug Valley, Distt. Kullu, H.P. during 2011-2012. Identification of flowering plants was done with the help of regional floras viz. Collet (1921), Nair (1977), Polunin and Stainton (1984), Chowdhery and Wadhwa (1984) Aswal and Mehrotra (1994), and Dhaliwal and Sharma, 1999. All the species were later verified by comparing the specimens housed at the Herbaria of Forest Research Institute, Dehra Dun and Botanical Survey of India (North circle), Dehra Dun. The collected plant specimens were deposited in herbarium section of Botany Department, Abhilashi Institute of Life Sciences. The information on local uses and diseases cured was collected from local Inhabitants using structured questionnaire. The village heads, herbal practitioners as well as elderly men and women of different villages were consulted to verify the information on indigenous use of collected plant species. Information about the plants was recorded with regards to their vernacular name, plant part used, process of preparation of medicine either individually or in combination with other plant part, and mode of administration as well as doses for the treatment. The collected information was analyzed for different genera and species of the medicinal plants.

## Results and Discussion

The present study records 21 plant species of medicinal value from Lug Valley of north western Himalaya belonging to 18 families. The overall diversity includes 17 Dicots, 2 Monocots and 2 Pteridophytes. Of the recorded species, 12 are herbs, 6 shrubs, 2 climbers and 1 tree. Different parts of the collected plants are used by the local inhabitants of the region for curing various ailments viz. leaves of *Ajuga bracteosa* are used for cough, asthma, fever, and blood purification; whole plant of *Asplenium dalhousiae* used for curing blisters; leaves of *Artemisia absinthium* used for skin disorders; rhizome of *Bergenia ciliata* used for skin disorders, wounds, and kidney stone; leaves and flowers of *Clinopodium vulgare* used for Stomachache, and dysentery; rhizome of *Cyperus rotundus* used for curing Dysentery. Various parts of the remaining plant species are used for the treatment of various diseases (Table 1).

**Table 1: Medicinal Plants of Lug Valley, District Kullu, Himachal Pradesh (N.W. Himalaya)**

Plant Name	Family	Vernacular Name	Habit	Plant Part/s	Uses
<i>Ajuga bracteosa</i> Wall. ex Benth.	Lamiaceae	Neel kanthi	H	Leaf	One teaspoonful of leaf juice prescribed twice daily for Cough and asthma. 4-5 g dried powdered leaves are given for fever. Leaf juice is used as blood purifier.
<i>Asplenium dalhousiae</i> Hook.	Aspleniaceae	Kajeri	H	Whole plant	Equal quantities of whole plants of <i>Asplenium dalhousiae</i> , <i>Rubia cordifolia</i> and <i>Silene conoidea</i> crushed and juice obtained is applied to cure blisters.
<i>Artemisia absinthium</i> L.	Asteraceae	Kachumebera	S	Leaf	Poultice of leaves alongwith the leaves of <i>Cannabis sativa</i> , <i>Vitex negundo</i> , applied to cure skin disorders.
<i>Bergenia ciliata</i>	Saxifragaceae	Bhander	H	Rhizome	Paste of rhizome applied to

(Haw.) Sternb.		Pocha			cure skin disorders and wounds. Rhizome used as vegetable for curing kidney stone. Leaf juice also prescribed for kidney stone.
<i>Clinopodium vulgare</i> L.	Lamiaceae	Kusuma	S	Leaf and Flower	4-5 g powdered dried leaves and flowers prescribed twice daily for Stomachache and dysentery
<i>Cyperus rotundus</i> L.	Cyperaceae	Dhabai	H	Rhizome	Decoction of rhizome prescribed to the children for curing Dysentery.
<i>Brugmansia suaveolens</i> (Humb. & Bonpl. ex Willd.) Bercht. & J. Presl	Solanaceae	Datura	S	Flower	8-10 g Powdered dried leaves and flowers mixed with powdered black pepper prescribed twice with honey for curing cough.
<i>Delphinium denudatum</i> Wall. ex Hook. f. & Thomson	Ranunculaceae	Nirbisi	S	Leaf and Flower	Juice of leaves and flowers applied to cure cuts and wounds.
<i>Geranium maculatum</i> L.	Geraniaceae	Dandupoocha	H	Leaf and Flower	Decoction of leaves and flowers prescribed for fever
<i>Hedera helix</i> L.	Araliaceae	Kermayi	C	Stem and Leaf	Decoction of stem and leaves prescribed for Cough
<i>Hypericum oblongifolium</i> Choisy	Hypericaceae	Kalalber	S	Flower and Leaf	Paste of leaves and flowers applied on forehead for Headache
<i>Malva neglecta</i> Wallr.	Malvaceae	Sunch	S	Leaf	Decoction of leaves prescribed for asthma and cough
<i>Mentha spicata</i> L.	Lamiaceae	Jungli Pudina	H	Leaf	Leaf juice prescribed for Digestive disorders and Dysentery
<i>Polystichum setiferum</i> (Forssk.) Woyen.	Dryopteridaceae	Baan	H	Rhizome	Rhizome is tied around the neck of child to cure dysentery during the period when milk teeth develop
<i>Rhododendron arboreum</i> Sm.	Ericaceae	Buraha	T	Flower	Juice of flowers prescribed for nose bleeding and fever. Candy of flowers also used for nose bleeding
<i>Rubia cordifolia</i> L.	Rubiaceae	Umblicurii	C	Leaf	Leaf paste applied to cure cuts and wounds
<i>Rumex hastatus</i> D. Don	Polygonaceae	Malori	H	Stem and Flower	Juice of stem and flowers applied to cure pimples.
<i>Sedum glaucophyllum</i> Clausen	Crassulaceae	Mochu-gha	H	Whole plant	Paste of whole plant applied to cure blisters
<i>Solanum nigrum</i> L.	Solanaceae	Bara liancho	H	Leaf and Fruit	Paste of leaves and fruits applied to cure Cuts and Wounds

<i>Trillidium govanianum</i> (Wall. ex D. Don) Kunth	Trilliaceae	Nag Chhatri	H	Rhizome	Rhizome chewed for digestive disorders and also for dysentery
<i>Viola canescens</i> Wall. ex Roxb.	Violaceae	Guguluphul	H	Leaf and flower	8-10 g powdered dried leaves and flowers taken with luke warm water on empty stomach in the morning for curing dysentery

Abbreviations: H=Herb, S=Shrub, T=Tree, C=Climber.

*Delphinium denudatum* Wall. ex Hook. f. & Thomson is found to be critically endangered (CR) for Himachal Pradesh due to its excessive exploitation for various purposes by the local people. During the present study it has been realized that this plant species require in situ as well as ex situ conservation in the area for maintaining future germplasm source.

## Conclusion

As the people belonging to various ethnic societies and rural communities have long been using plants for curing various ailments but these information related traditional medicinal uses of plants are not well documented. There is a urgent need for documenting these folklore and traditional knowledge in some form before such valuable knowledge becomes extinct. The present investigation revealed that the native people of Lug valley are largely dependent upon the surrounding plant resources to cure various ailments. The traditional healers and old village peoples have a sound knowledge related to medicinal uses of plants around them. These plants form an integral part of their lifestyle and hence have always been revered. Traditional herbal medicines used by the inhabitants of this region play an important role in alleviating different diseases.

## References

- Aswal BS, Mehrotra BN. Flora of Lahaul-Spiti (A Cold Desert in North –West Himalayas). Bishen Singh Mahendra Pal Singh, Dehra Dun, 1994.
- Badola HK, Pal M. Endangered medicinal plants in Himachal Pradesh. Current Science 2002; 83(7): 797-798.
- Balkrishna A, Srivastava A, Mishra RK, Patel SP, Vashistha RK, Singh A, Jadon V, Saxena P. Astavarga plants-threatened medicinal herbs of the North-West Himalaya. Int. J. Med. Arom. Plants 2012; 2(4): 661-676.
- Boktapa NR, Sharma AK. Wild medicinal plants used by local communities of Manali, Himachal Pradesh, India. Ethnobotanical Leaflets 2010; 14: 259-67.
- Chauhan NS. Medicinal and Aromatic Plants of Himachal Pradesh. Indus Publishing, New Delhi, 1999.
- Chowdhery HJ, Wadhwa BM. Flora of Himachal Pradesh Vol.1-3. Botanical Survey of India, Calcutta, 1984.
- Collet H. Flora Simlensis. Thacker, Spink & Co., Calcutta, Simla, 1921.
- Dhaliwal DS, Sharma M. Flora of Kullu District, Himachal Pradesh. BSMPS, Dehradun, 1999.
- Gadgil M. Documenting diversity: An experiment. Curr. Sci. 1996; 70(1): 36.
- Gaur RD, Singh PB. Ethno-medicinal plants of Mandi district, Himachal Pradesh, B.M.E.B.R. 1995; 14(1): 1-11.
- Iwu M. Handbook of African Medicinal Plants. CRC Press, Boca Raton, FL, 1993.
- Jain SK, Mudgal V. A Hand Book of Ethnobotany. Bishan Singh Mahendra Pal Singh, Dehra Dun, 1999.

- Joy PP, Thomas J, Mathew S, Skaria BP. Medicinal plants. In: Bose TK, Kabir J, Das P, Joy PP, editors. Tropical Horticulture Vol. 2. Naya Prokash, Calcutta, 2001, 449-632.
- Kapur SK. Ethno-medico plants of Kangra valley (Himachal Pradesh). J. Econ. Tax. Bot. 1993; 17(2): 395-408.
- Kaur I, Sharma S, Lal S. Ethnobotanical survey of medicinal plants used for different diseases in Mandi district of Himachal Pradesh. International Journal of Research in Pharmacy and Chemistry 2011; 1(4): 1167-1171.
- Khan ZS, Khuroo AA, Dar GH. Ethnomedicinal survey of Uri, Kashmir Himalaya. Indian J. Traditional Knowledge 2004; 3(4): 351.
- Kumar S, Kumar R, Khan A. Medicinal plant resources: manifestation and prospects of life-sustaining healthcare system. Continental J. Biological Sciences 2011; 4(1): 19-29.
- Lal B, Vats SK, Singh RD, Gupta AK. Plant used as ethnomedicine and supplementary food by Gaddis of Himachal Pradesh, India. In: Jain SK, editor. Ethnobiology in human welfare. Deep Publications, New Delhi, 1996.
- Mashelkar RA. Protecting India's traditional knowledge. Employment News 2002; 26(50): 1.
- Nair RC. Flora of Bashahr Himalaya. Int. Biosci. Publ., Hissar, 1977.
- Negi PS, Subramani SP. Ethnobotanical study in the Naggar area of Kullu Valley, Himachal Pradesh. J. Econ. Taxon. Bot. 2006; 30(2): 349-358.
- Parkash V, Aggarwal A. Traditional uses of ethnomedicinal plants of lower foot-hills of Himachal Pradesh-I. Indian Journal of Traditional Knowledge 2010; 9(3): 519-521.
- Polunin O, Stainton A. Flowers of the Himalaya. Oxford University Press, Delhi, 1984.
- Rana MS, Samant SS. Diversity, Indigenous uses and conservation status of medicinal plants in Manali Wildlife Sanctuary, Northwestern Himalaya. Indian Journal of Traditional Knowledge 2011; 10(3): 439-459.
- Samant SS, Pant S, Singh M, Lal M, Singh A, Sharma A, Bhandari S. Medicinal plants in Himachal Pradesh, North Western Himalaya, India. Int. J. Biodiversity Sci. and Management 2007; 3: 234-251.
- Sharma JR, Mudgal V, Hajra PK. Floristic diversity-review, scope and perspectives. In: Floristic diversity and conservation strategies in India. BSI, Calcutta, 1997, 1-45.
- Sharma PK, Lal B. Ethnobotanical notes on some medicinal and aromatic plants of Himachal Pradesh. Indian Journal of Traditional Knowledge 2005; 4(4): 424-428.
- Sharma PK, Chauhan NS, Lal B. Studies on plant associated indigenous knowledge among the Malanis of Kullu district, Himachal Pradesh. Indian Journal of Traditional Knowledge 2005; 4(4): 403-408.
- Singh KN, Lal B, Todaria NP. Ethnobotany of higher plants in Spiti cold desert of Western Himalaya. Nature and Science 2012; 10(5): 7-14.
- Singh SK. Ethnobotanical study of useful plants of Kullu district in Northwestern Himalaya, India. J. Econ. Tax. Bot. 1999; 23(1): 185-198.
- Singh SK. Ethno-medical plants of Kullu valley, Himachal Pradesh. Journal of Non-Timber Forest Products 2004; 11(1): 74-79.
- Singh SK, Rawat GS. Flora of Great Himalayan National Park. Himachal Pradesh. Bishen Pal Mahendra Pal Singh, Dehradun, 2000.
- Uniyal MR, Chauhan NS. Traditionally important medicinal plants of Kangra valley in Dharmshala Forest Circle, H.P. J. Res. Indian Med. 1973; 8(1): 76-85.